

RICHARD MORELAND & SON,

ENGINEERS AND MILLWRIGHTS,

AND MAKERS OF

IRON GIRDER WORK, IRON ROOFS,

FIRE-PROOF FLOORS,

AND GENERALLY OF

CONSTRUCTIONAL WORK IN IRON.

WORKS, AT

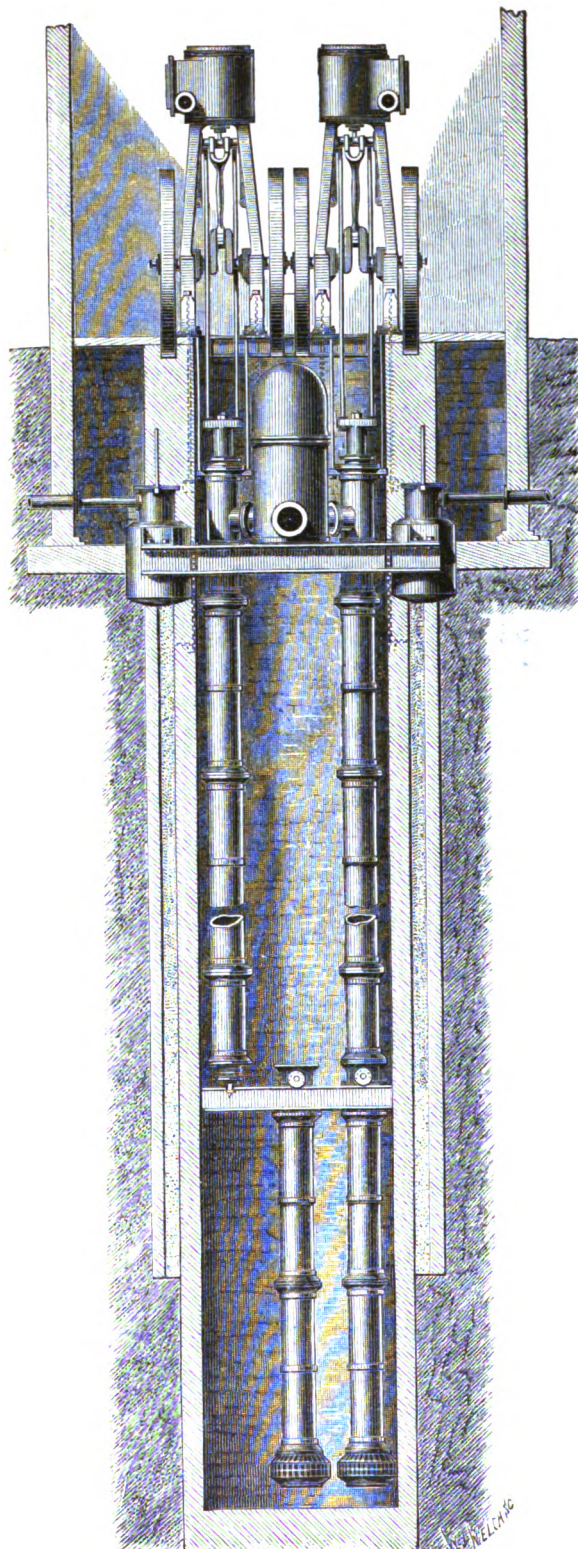
3, OLD STREET, LONDON, E.C.,

*Within ten minutes' walk of the General Post Office, and within three minutes' walk of
Aldersgate Street Station on the Metropolitan Railway.*

MESSRS. R. MORELAND AND SON have carried on for a great many years an old-established business at the above address, and have pleasure in referring to the Illustrations of some of the various Works of their Manufacture, to be found on the following pages.

RICHARD MORELAND AND SON,

ENGINEERS AND MILLWRIGHTS. WORKS: 3, OLD STREET, LONDON, E.C.



PUMPING ENGINES

FOR

WATER-WORKS.

The Illustration shows a compact but efficient type of Engine and Pump Work, where two Condensing and Expansive Engines of 100 Horse-power collectively are placed over a well 10 feet diameter, and require no other foundation nor any support from the walls of the Engine House.

These Engines are most economical for exportation, or where foundations are doubtful or expensive ; and embrace at the same time every modern improvement to secure economy in fuel.

The Valve Box and Suction Pipe of one Pump is shown removed by a very simple apparatus, so as to give most convenient access to the Suction Valve, and also to the Pump Bucket, which is readily lowered, as shown, below the Pump Barrel for that purpose.

For Estimates and all Particulars apply to

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ALL KINDS OF MILLWRIGHT WORK.

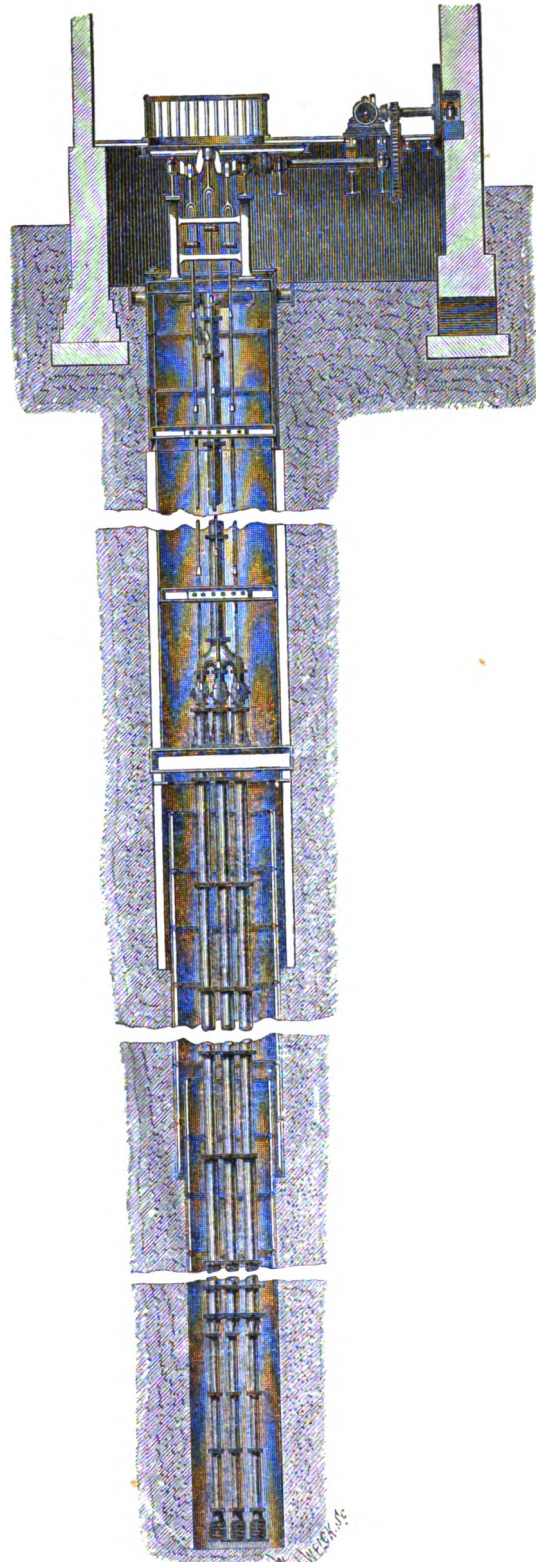
Such work is executed in the most approved and substantial manner for all purposes.

R. MORELAND AND SON have given special attention to Brewery Work of all kinds; and design and supply Brewery Plant for large Breweries on the most improved systems of the best London Breweries.

The Illustration shows a set of Deep-Well Pumps, such as R. MORELAND AND SON have supplied to several of these.

R. MORELAND AND SON have given much attention to the new systems of Cooling Liquor for Breweries, and have supplied some of the most successful apparatus for that purpose now in operation in London, and they are prepared to give Estimates for such, or for the similar apparatus required for the manufacture of Ice on the large scale.

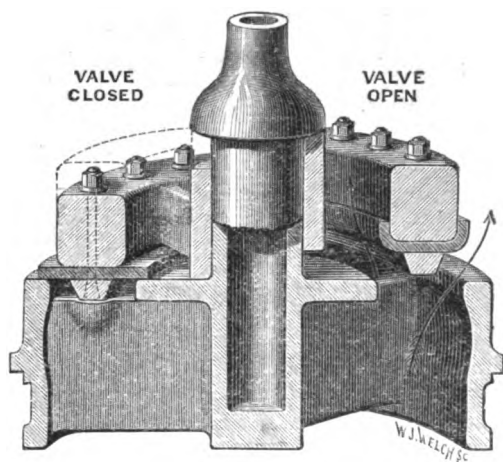
They also make all kinds of Elevators and other Machines for moving or storing malt or grain.



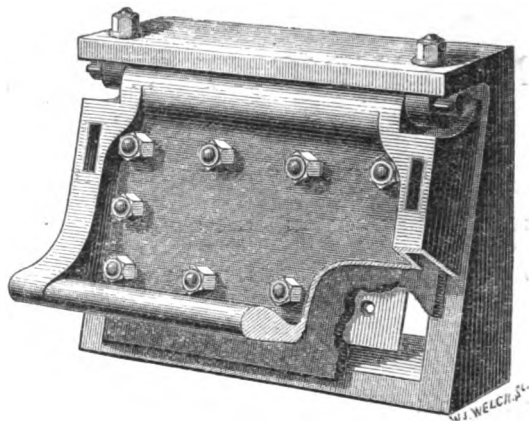
For Estimates and all Particulars apply to

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PUMPING SEWAGE.

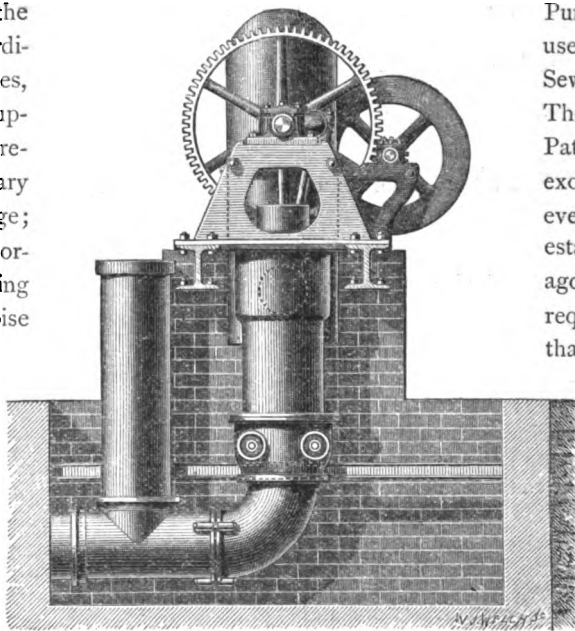


One half of this Section shows the Valve closed, and the other open.



The Illustrations above show two different forms of Thomson and Porter's Patent Pump Valves. These are applicable to any purpose, and are now in use at various Water-Works, under heads of water varying from 20 feet to 400 feet, but they are peculiarly adapted to Pumping Sewage, for which purpose they are the best Valves yet produced as regards durability and efficiency. They give all the advantages of the ordinary indiarubber Valves, without requiring the support of gratings, which preclude the use of the ordinary Valves for pumping sewage; and they surpass the ordinary Valves in working with a minimum of noise or jar.

Both the forms shown above are in extensive use at two of the Metropolitan Sewage Pumping Stations. The Illustration below shows one of the Sewage



Pumps that raise the sewage used at the well-known Sewage Farm at Barking. Thomson and Porter's Patent Valves have been exclusively used there also, ever since the Works were established, nine years ago, and they have hardly required repair during that time. R. MORELAND

AND SON supply these Valves, which may be fitted to any Pumps; or, if desired, they grant licences to other Engineers to make and supply them.

For Prices, Terms, and other Particulars, apply to

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HYDRAULIC WORK.

R. MORELAND AND SON DESIGN
AND MANUFACTURE

HYDRAULIC WORK,

SUCH AS

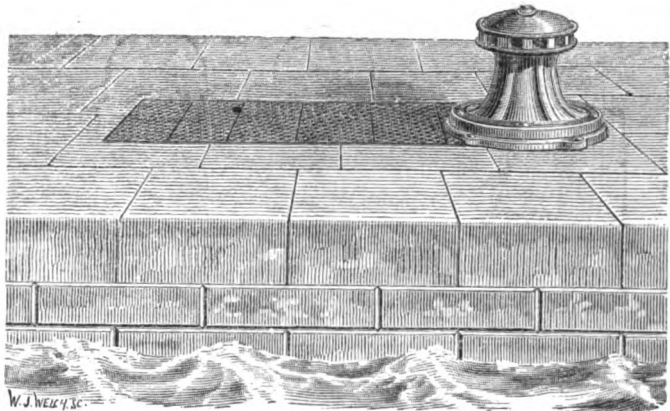
HYDRAULIC CRANES AND LIFTS OF
ALL KINDS,

CAPSTANS, COAL TIPS, AND OTHER
MACHINERY

Worked by Hydraulic Power,

PUMPING ENGINES, PUMPS, AND
ACCUMULATORS,

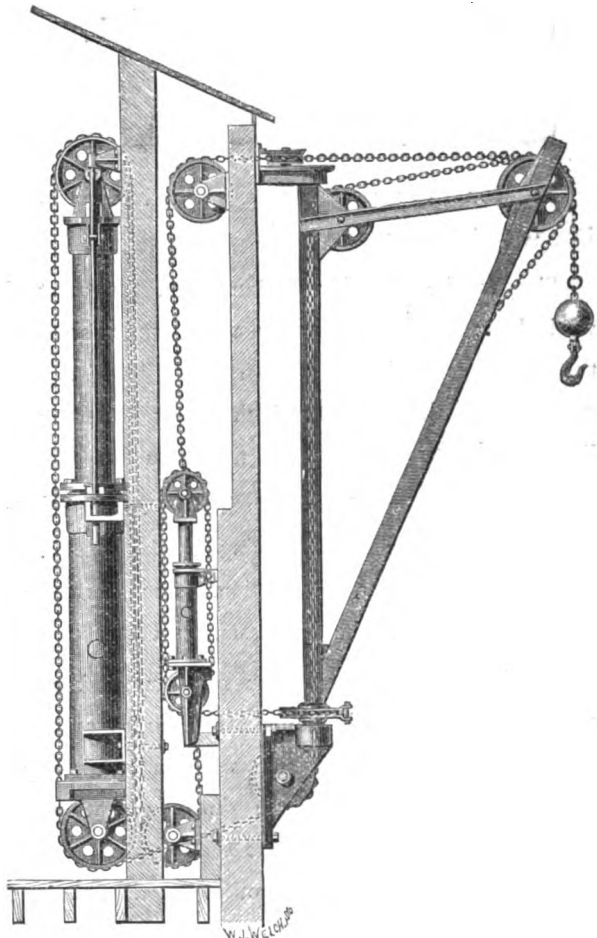
For working Hydraulic Machines.



The Pumping Engines are made either horizontal in the usual way, or vertical, with the type of Engine shown at page 442. An example of the latter plan, with a *Condensing* Engine, has recently been supplied by R. MORELAND AND SON to the Bute Docks, Cardiff. The adoption of this plan saves about half the fuel usually consumed.

The Illustration above shows the Hydraulic Capstans made by R. MORELAND AND SON, for the Extension Works, Chatham Dockyard. The other Illustration shows a Hydraulic Crane (on Boetius' Patent System), well adapted to situations where the loads are variable. It has double chains, and can be worked at pleasure with *one* in the usual way, or with two. In the former case it lifts only half the full load; but the lifting ram moves over half its stroke only, and so saves half the water and power that would otherwise be used.

This kind of Crane may be seen in operation, with others of R. MORELAND AND SON's Hydraulic Machines, at one of the largest Factories in London.

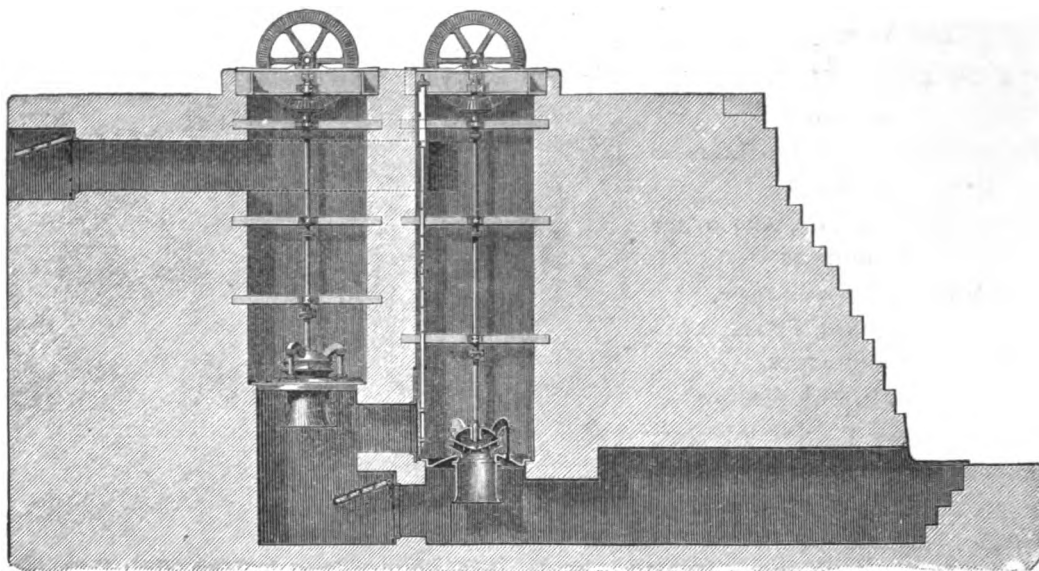


For Estimates and all Particulars apply to

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CENTRIFUGAL PUMPS.



R. MORELAND AND SON Design and Manufacture LARGE CENTRIFUGAL PUMPS for GRAVING DOCKS and DRAINAGE WORKS.

They make Centrifugal Pumps on the most simple system, with the Axis of the Wheel vertical, and taking the water at the under side only; and with a special contrivance by which the water itself balances the whole weight of the moving parts. By this means the friction, and consequently the power and the wear and tear, are reduced to a minimum. The larger the Pumps, the more important is this feature in their construction.

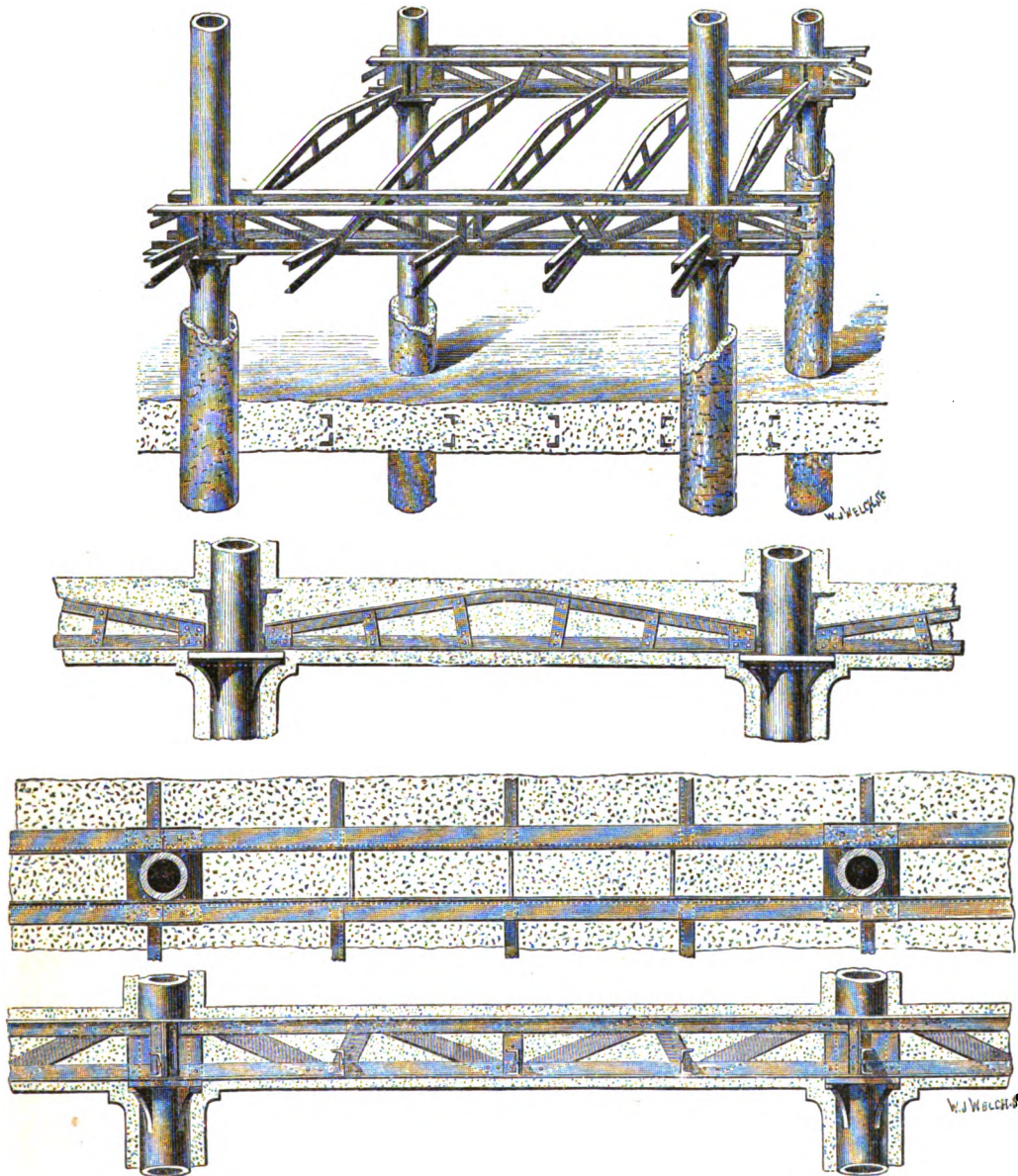
The Illustration shows a pair of Centrifugal Pumps constructed on this plan, and recently set to work at the New Graving Dock, Bute Docks, Cardiff. One of the Pumps is shown in section and the other in elevation. Such Pumps can either be worked by direct-acting Engines, or with Gearing, as the circumstances of the case may render advisable.

In the case of Cardiff the maximum lift required is sometimes great, amounting to from 30 to 40 feet, and the Pumps are so arranged that while the Graving Dock is partly filled and the lift is moderate, both Pumps act independently, as shown in the Illustration. But when the lift becomes too great, by the simple operation of opening the sluice between the Pumps the lower Pump discharges into the suction chamber of the higher Pump, the stop-back Valve, shown below the sluice, closes of its own accord, and the lift is divided between the Pumps.

For Estimates and all Particulars, apply to

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FIRE-PROOF FLOORS.

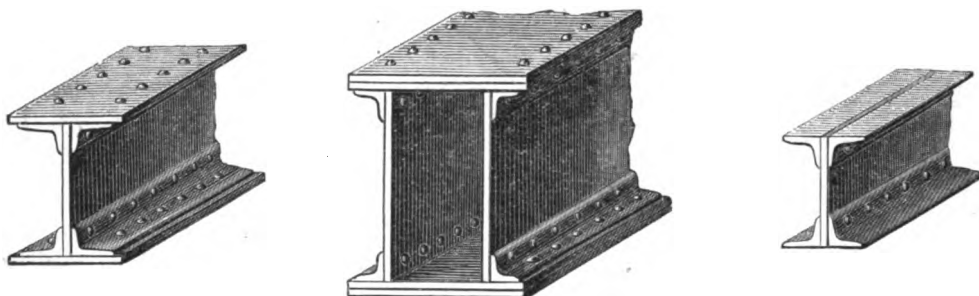


R. MORELAND AND SON have given much attention to the construction of Fire-proof Buildings, and the Illustrations show one of their most improved methods of construction, in which the Girders carrying the floor are open in their structure, and the floor itself is therefore a *continuous* mass of concrete, and the columns themselves can be cased in the same concrete.

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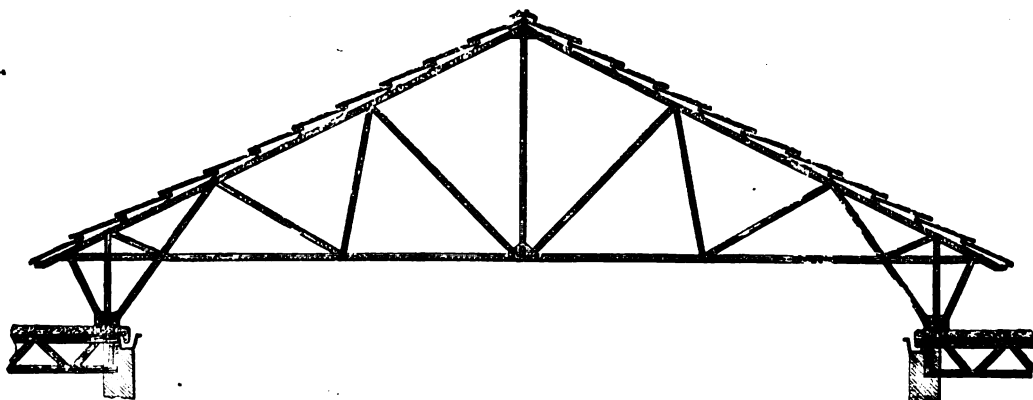
WROUGHT-IRON GIRDERS, ROOFS, AND CONSTRUCTIONAL WORK.



R. MORELAND AND SON design and manufacture all kinds of Wrought-Iron Girder Work, Columns, Stanchions, Roofs, Fire-proof Doors, and Constructional Ironwork generally. They have supplied the Ironwork for some of the most important Buildings of recent erection in London, such as the Midland Grand Hotel, St. Pancras; Royal Hotel, Blackfriars; Messrs. Waterlow's new Factories in Finsbury, &c., &c. The Roof shown in the Illustration below is one over the court-yard at the latter building. It is entirely covered with glass, with large openings all round for ventilation.

R. MORELAND AND SON keep a large stock of Iron suitable for Girders, and when such are wanted in haste, they can generally supply them at a few days' notice.

They undertake to supply or estimate for Girders, Columns, and Builders' Ironwork generally of the best and cheapest construction, on being informed as to the weight to be carried, and any other data that affect each particular case.



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